METHOD AND SYSTEM FOR PRODUCING A MAGNETIC FIELD SIGNAL USABLE FOR LOCATING AN UNDERGROUND OBJECT

ABSTRACT OF THE DISCLOSURE

Transmitted magnetic field signals useable for locating an underground object, and methods and systems for generating the same. The magnetic field signal has desired spectral characteristics. More specifically, the transmitted magnetic field signal includes a carrier component useable for locating an underground object. The carrier component has a carrier component frequency substantially equal to an integer multiple of 300 Hz. This guarantees that the carrier component frequency is substantially equal to an integer multiple of both 50 Hz and 60 Hz. Such a carrier component allows use of maximum information sidebands in environments that often include harmonically derived interference signals at regular 50 Hz (± 0.1 Hz) or 60 Hz (± 0.1 Hz) intervals caused by power lines. The transmitted magnetic field signal may also include at least one information sideband including sideband energy. A substantial portion of the sideband energy is contained between the carrier component frequency and a frequency spaced 50 Hz from the carrier component frequency.

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